

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 8, 2011 has been entered.
2. The claim amendment received March 8, 2011 has been entered. Claims 10 and 17-19 were amended. Claims 20-22 were added. Claims 1-22 are pending.
3. The examiner acknowledges the petition submitted by applicant on June 3, 2011 was granted as indicated in the petition decision mailed September 20, 2011. The I.D.S. filed January 5, 2011 has been removed from the application file.
4. The objection to claims 17-19 set forth in the last Office action (mailed December 8, 2010) is withdrawn due to the amendment.
5. The rejection of claim 19 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention set forth in the last Office action (mailed December 8, 2010) is withdrawn due to the amendment.
6. The rejection of claims 1-3 and 11-16 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 5, 7, 11, and 12 of U.S. Patent No. 7,598,670 is withdrawn upon further consideration.

7. The rejection of claims 1-3 and 11-16 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Application No. 10/577,472, which has now issued as Patent No. 7,750,560, is withdrawn upon further consideration.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 4-6, 8, 9, and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17-19 each define for general formula 1 that “at least one of pairs of  $R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ , and  $R^3$  and  $R^4$  is bonded to form an aromatic ring”. Variables  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  are undefined in the instance where they do not form an aromatic ring. The meanings of the “R” variables are not understood when they are not part of an aromatic ring.

Claims 4, 5, 8, and 17-19 set forth a formula (2). The variables  $Ar^{11}$  to  $Ar^{14}$  are defined, but the variables  $Ar^{15}$  to  $Ar^{18}$  are not defined. Accordingly, claims 4, 5, 8 and 17-19 are indefinite.

Dependent claims are included in this rejection, because of their respective dependencies upon rejected claims.

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-3, 7, 9 and 11-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 5, 7, 8, 10, 11, 17, 18, 20, 21, 23, 24, 26, and 27 of U.S. Patent No. 7,564,052. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the wording is not identical and ‘052 specifies bipolar compound “TPAQn” as a first layer material in combination with an electron accepting material, ‘052 claims a first, second, and third layer for a light emitting element comprising material within the limitations of the instant claims. Particularly noted is claim 23 of ‘052 that recites the second layer comprises a substance having an electron transporting property higher than a hole transporting property and a substance having an electron donating property. The disclosure of an electron transporting property higher than a hole

transporting property reads upon the instantly claimed relationship ratio of charge mobility. The material "TPAQn" is a bipolar material considered to inherently have the required property.

12. Claims 1-3, 7, and 9-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over 9-13, 15, 16, 30-32, 35, 37, and 38 of U.S. Patent No. 7,893,427 (corresponding to U.S. Application No. 10/582,249). Although the conflicting claims are not identical, they are not patentably distinct from each other because although the claim wording is not identical, the specific materials claimed for the first, second and third layers by '427 meet the requirements for materials of the layers of the instant claims. For example, '427 claim 30 recites a first layer having a material with a *stronger* hole transporting property than electron transporting property in combination with an electron accepting property. The second layer comprises a material having a *stronger* electron transporting property than hole transporting property in combination with a material having an electron accepting property. The disclosure of one charge transporting property higher than another charge property encompasses materials of the instantly claimed relationship ratio of charge mobility for the first and second layers.

#### ***Allowable Subject Matter***

13. The claims comprise allowable subject matter in terms of the prior art, but are rejected on other grounds in this Office action. The prior art fails to teach or to render obvious first and second layers as recited in combination with the other recited features of a light emitting device.

***Response to Arguments***

14. Applicant's arguments filed March 8, 2011 have been fully considered but they are not persuasive.

With regard to the double patenting rejections, applicant argues the present invention includes "bipolar" substances. The examiner submits the specific term "bipolar" is not set forth in the claims. The patents used in the double patenting rejections disclose compounds having "higher" or "stronger" properties of one charge type ability (i.e., hole or electron) over another. This disclosure of a property relationship is deemed to encompass the mobility ratios set forth in the claims. The examiner notes that if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. Also, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied upon.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571)272-1523. The examiner can normally be reached Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Chriss can be reached on (571) 272-7783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/  
Primary Examiner, Art Unit 1786

November 1, 2011